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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

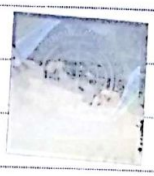
T-2377

Job No.: CTCE/BBMP/JCR/W.No.14/CSR-02/560h/CEMENT/2017-18

Date: 03.02.2018

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of Work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Sample ID	:	Cement
Sample Received on	:	02.02.2018
Period of Testing	:	02.02.2018 to 03.02.2018



The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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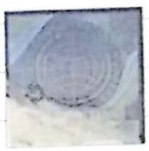
T-2377

03.02.2018

Job No.: CTCE/BBMP/JCR/W.No.14/CSR-02/560h/SAND-Gradation/2017-18

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of Work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Sample ID	:	Fine Aggregates (Manufactured Sand)
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	:	02.02.2018
Date of Testing	:	03.02.2018



Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	94.30	90-100	90-100	90-100	95-100
2.36	77.40	60-95	75-100	85-100	95-100
1.18	57.20	30-70	55-90	75-100	90-100
600 Micron	29.70	15-34	35-59	60-79	80-100
300 Micron	13.90	5-20	8-30	12-40	15-50
150 Micron	5.50	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/JCR/W.No.14/CSR-02/560h/AGG/GR/2017-18 03.02.2018

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of Work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	02.02.2018
Date of Testing	:	03.02.2018

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.10	95-100	85-100
20	34.10	30-70	0-20
10	12.60	10-35	0-5
4.75	2.80	0-5	-

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* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/JCR/W.No.14/Steel/2017-18

05.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Samples ID	:	8mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	05.02.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	8	0.39	511	552	13.05	O.K	O.K

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/JCR/W.No.14/Steel/2017-18

05.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	05.02.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	513	554	13.1	O.K	O.K

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Job No.: CTCE/BBMP/JCR/W.No.14/Steel/2017-18

05.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of work	:	Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Samples ID	:	12 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	05.02.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	12	0.89	515	556	13.25	O.K	O.K

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Job No.: CTCE/BBMP/JCR/W.No.14/CSR-02/560h/Cube/2017-18

07.03.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. J.C. Ramachandra** No.59, 5th D Main, 10th C Cross, WCR Mahalakshmipuram, Bangalore – 560086.
* Name of the work	: Improvements to drain at Munikondappa Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	: BBMP/DZ/AEE/TDSD/PR/206/2017-18 Dated : 02.02.2018
* Sample ID	: RCC Drain Bed Slab Concrete
Technical Reference	: IS: 516-1959 (RA-2013)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 07.03.2018

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.02.2018	07.03.2018	8.152	494.5	21.98
2	07.02.2018	07.03.2018	8.269	503.7	22.39
3	07.02.2018	07.03.2018	8.374	516.8	22.97

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